

D 16. In a process for producing ^{optimally spherical, uniform} aluminum oxide beads, said process comprising converting a member of the group consisting of an acid aluminum oxide sol and an acid aluminum oxide suspension having a viscosity of 10 to 500 mP's into hydrasol droplets, coagulating said droplets in an aqueous ammonia solution to form gel beads, and again, washing, drying and calcining the gel beads;

D the improvement comprising forming ^{uniform} ~~said~~ hydrosol droplets by passing said member of the group consisting of an acid aluminum oxide sol or an acid aluminum oxide suspension through a vibrating nozzle plate, which is vibrated at a frequency of 10 Hz to 20,000 Hz, ^{uniform} said vibrating plate having several nozzles, pre-solidifying ^{uniform} said droplets by blowing ammonia gas against them, and collecting the ^{uniform} pre-solidified droplets in said aqueous ammonia solution, wherein the nozzles are disposed on a ring and said droplets passing said nozzles are ^{uniformly} pre-solidified with ammonia gas blown from ring interior and ring exterior against said droplets.

17. A process as set forth in claim 16 wherein the improvement further comprises the presence of a surface active agent in said aqueous ammonia solution for foam generation.

18. A process as set forth in claim 16 wherein the improvement further comprises the presence of a foam of 5 to